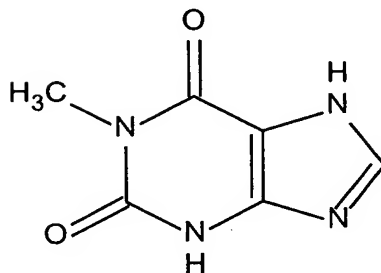


Basic Structure of N- (Aryl Substituted) -  
naphthalidimides

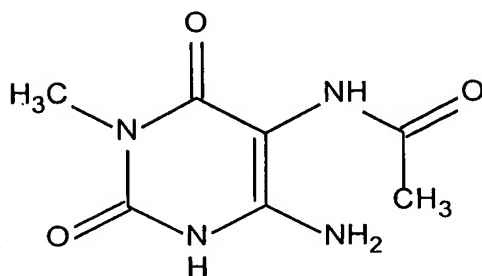
FIG - 1



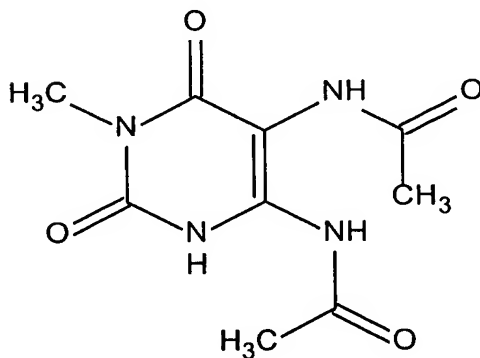
## NAT2



1X (1-methylxanthine)



AAMU (5-acetamido-6-amino-methyluracil)

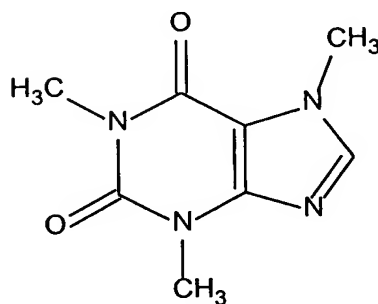


AFMU (5-acetamido-6-formylamino-methyluracil)

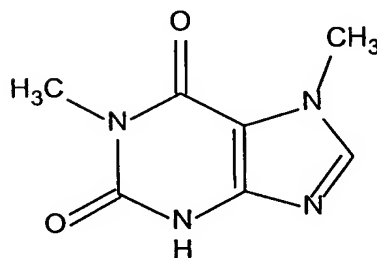
FIG. 2



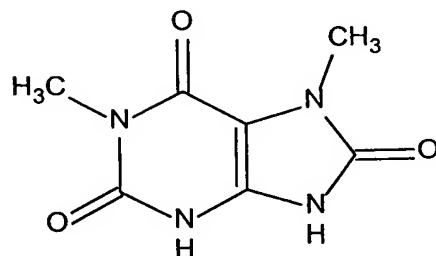
## CYP1A2



Caffeine (1,3,7-trimethylxanthine)



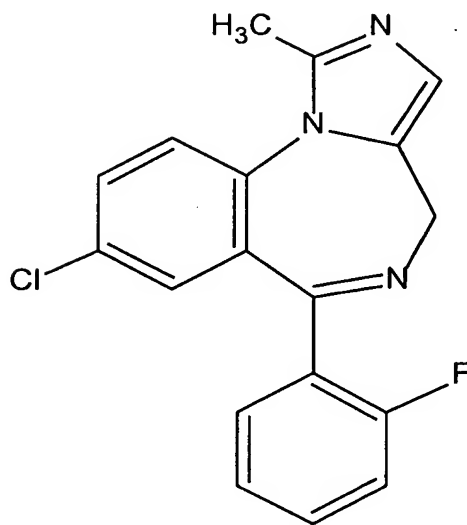
1,7-DMX (1,7-dimethylxanthine)



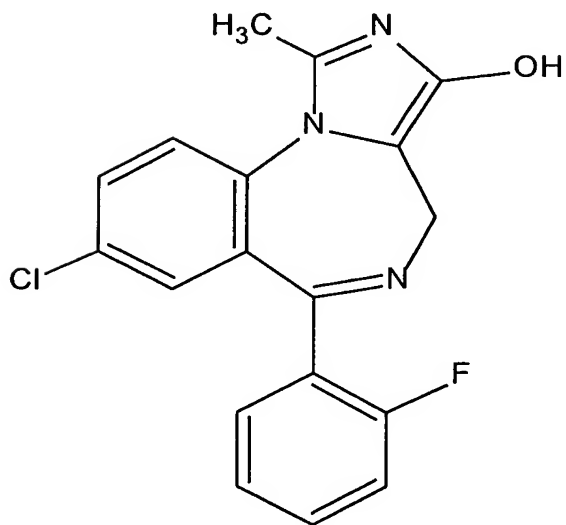
1,7-DMU (1,7-dimethyluracil)



## CYP3A4



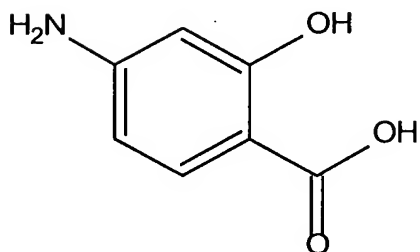
MDZ (Midazolam)



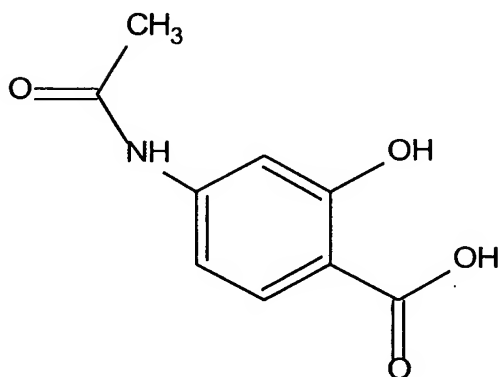
1-OH-MDZ (1-Hydroxymidazolam)



NAT1



p-ASA (p-aminosalicylic acid)

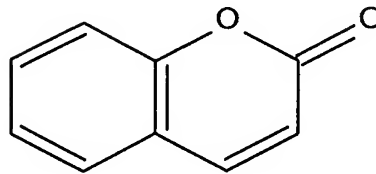


Acetyl-pASA (acetyl-p-aminosalicylic acid)

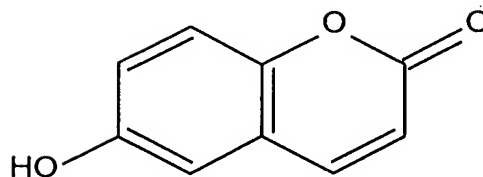
FIG. 5



## CYP2A6



Coumarin

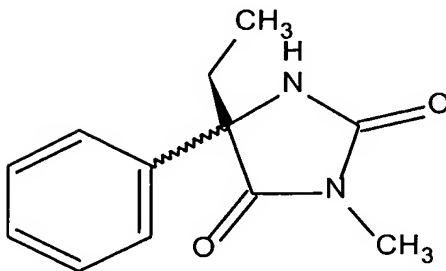


7-Hydroxycoumarin

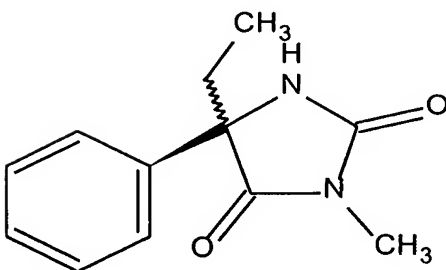
FIG. 6



CYP2C19



R-(-)-Mephénytoin



S-(+)-Mephénytoin

FIG. 7

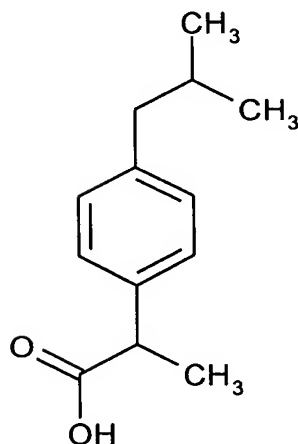


Docket No.: 3298.1003-000

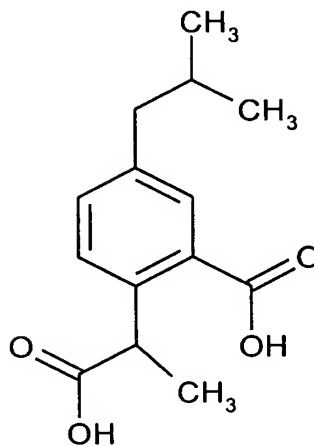
Title: USE OF METABOLIC PHENOTYPING...

Inventor: Brian Leyland-Jones

CYP2C9



(s) -Ibuprofen



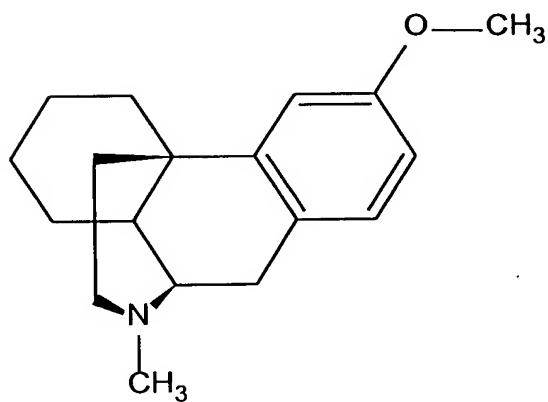
2-carboxyibuprofen

FIG. 8

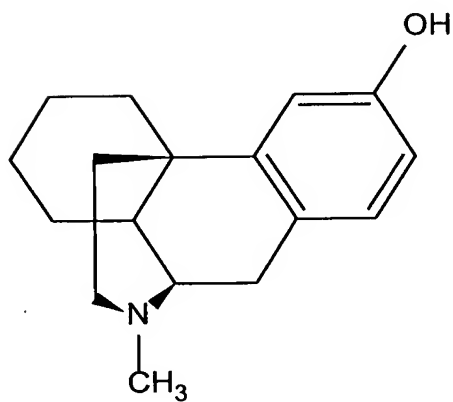




## CYP2D6



Dextromethorphan



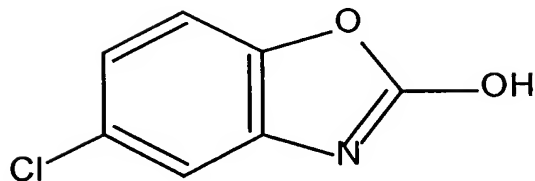
Dextroorphan

FIG. 9

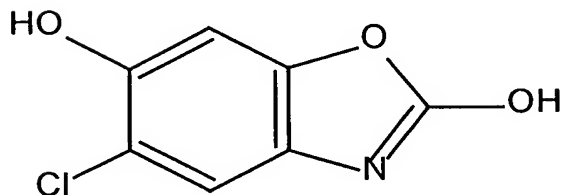


Docket No.: 3298.1003-000  
Title: USE OF METABOLIC PHENOTYP  
Inventor: Brian Leyland-Jones

CYP2E1



Clorazoxazone



6-Hydroxychlorzoazone

FIG. 10



Docket No.: 3298.1003-000

Title: USE OF METABOLIC PHENOTYPING...

Inventor: Brian Leyland-Jones

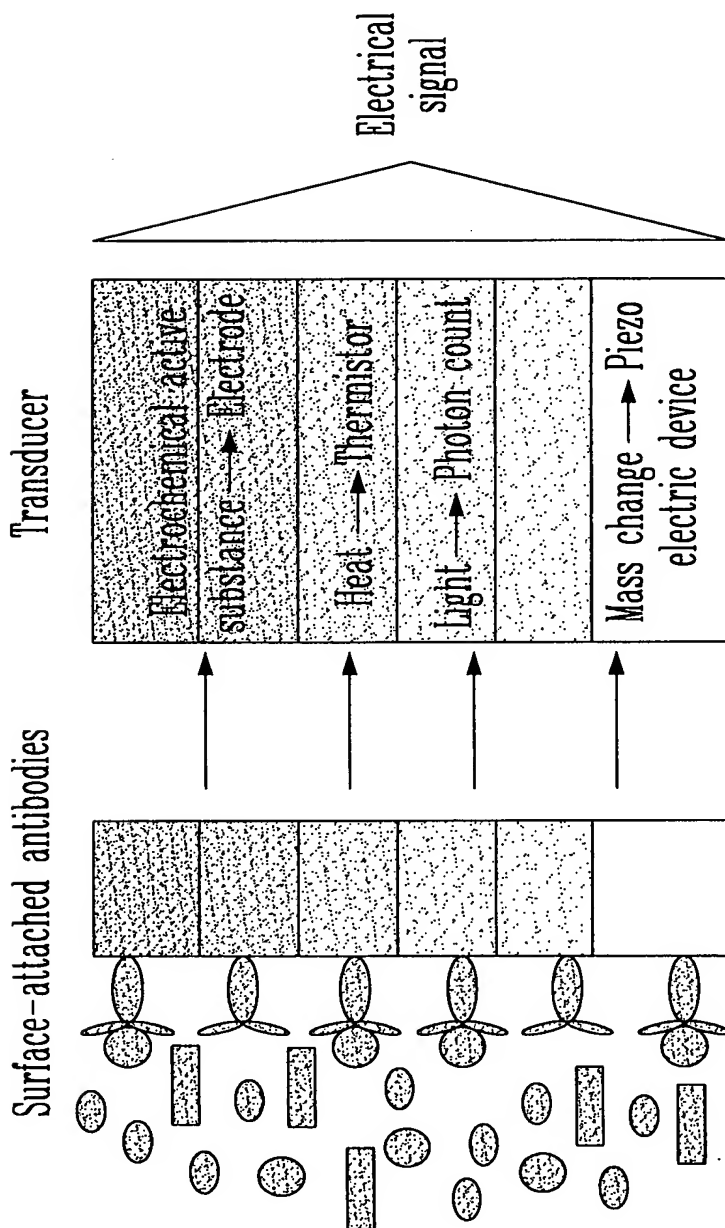


FIG. 11

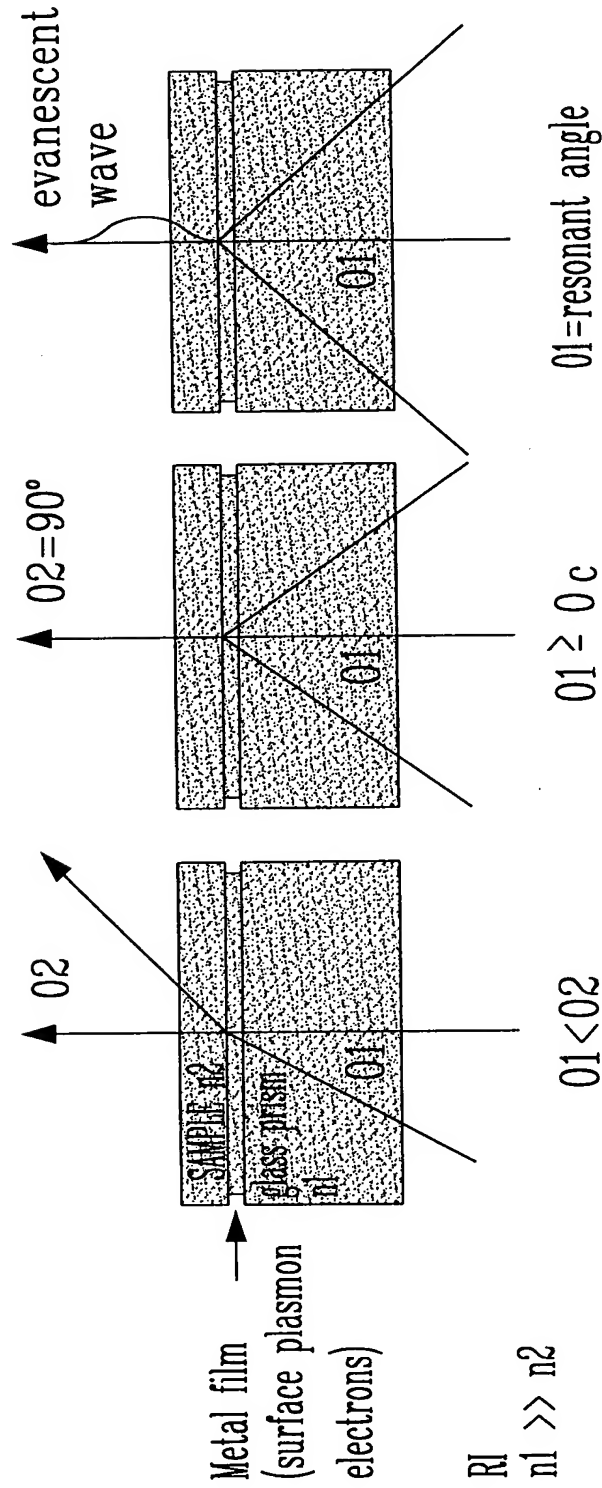


FIG-12

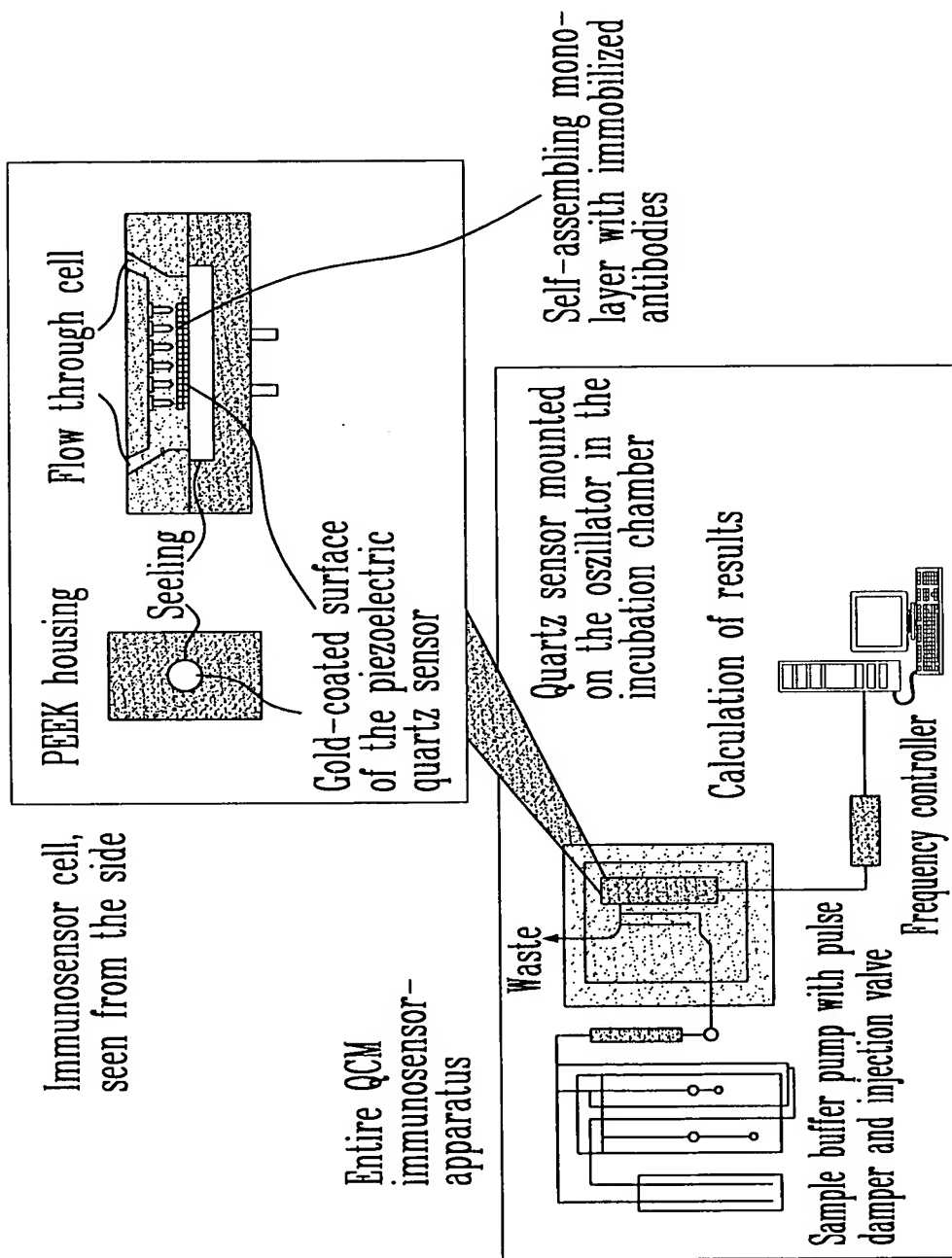
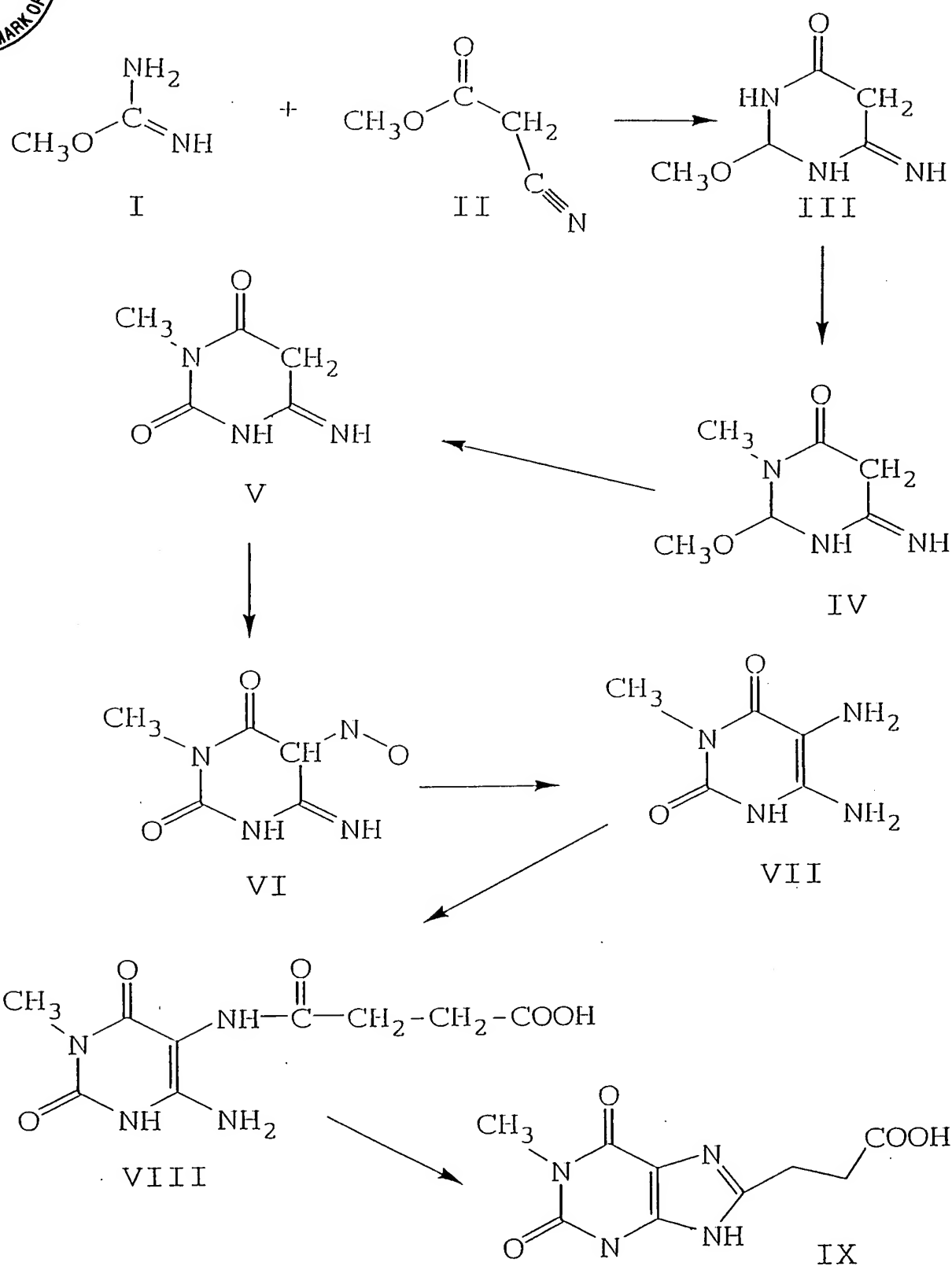


FIG. 13

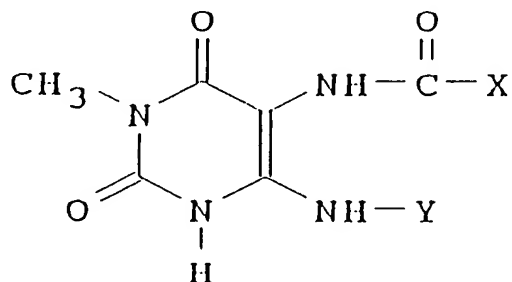


AAMU-hemisuccinic acid

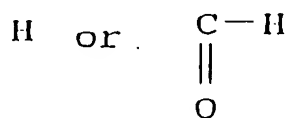
1 methyl xanthine-8-propionic acid



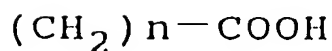
Derivatives of AAMU (5-acetamino-6-amino-3-methyluracil) or  
AFMU (5-acetamino-6-formylamino-3-methyluracil)



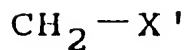
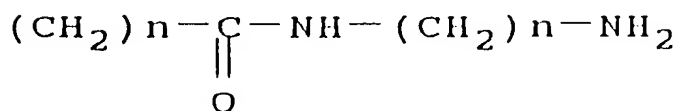
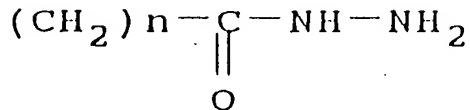
Where Y is



X



where n = 2, 3 or 4



where X' is I, Br, or Cl

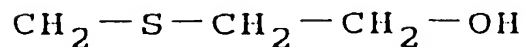
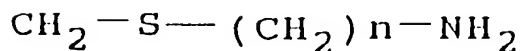
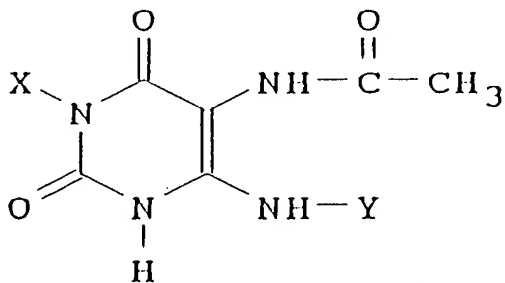


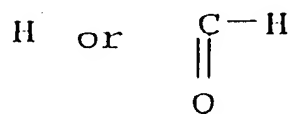
FIG. 15



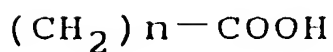
Derivatives of AAMU (5-acetamino-6-amino-3-methyluracil) or  
AFMU (5-acetamino-6-formylamino-3-methyluracil)



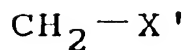
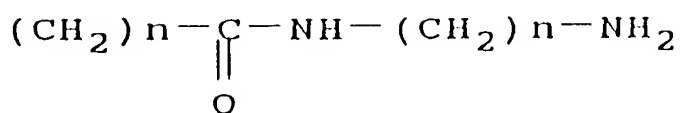
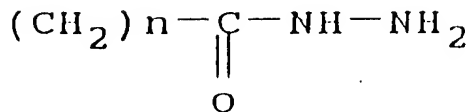
Where Y is



X



where n = 2, 3 or 4



where X' is I, Br, or Cl

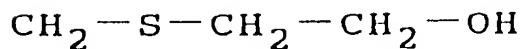
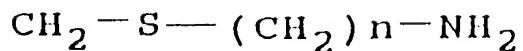
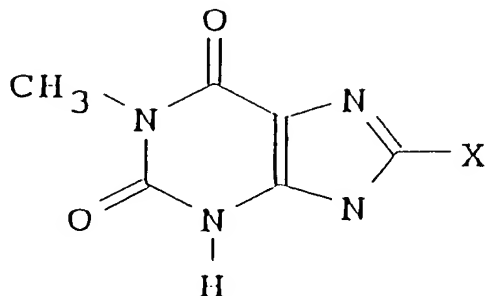


FIG. 16

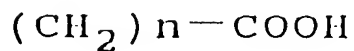
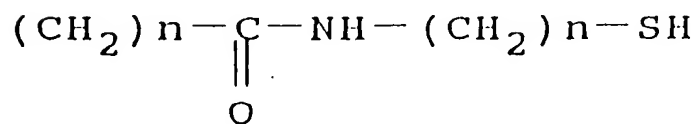
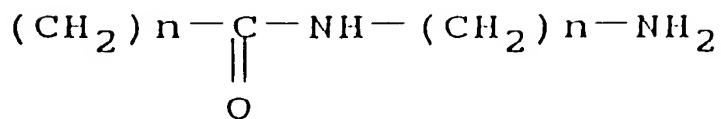
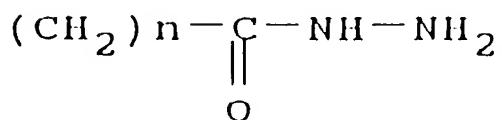




## Derivatives of 1X (methylxanthine)



X

where  $n = 2, 3$  or  $4$ FIG. 17

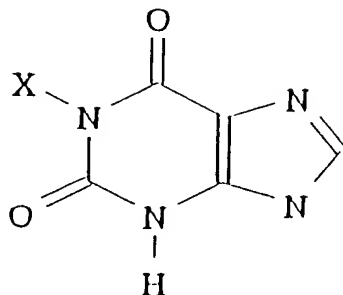


Docket No.: 3298.1003-000

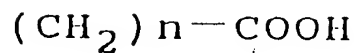
Title: USE OF METABOLIC PHENOTYPING....

Inventor: Brian Leyland-Jones

# Derivatives of 1X (methylxanthine)



X



where n = 2, 3 or 4

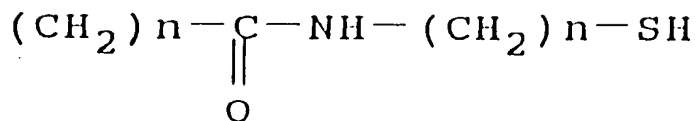
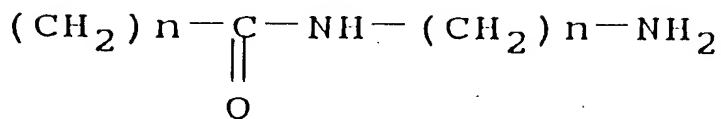
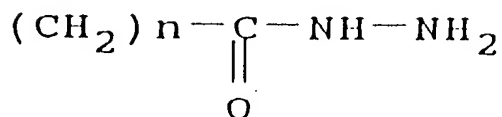
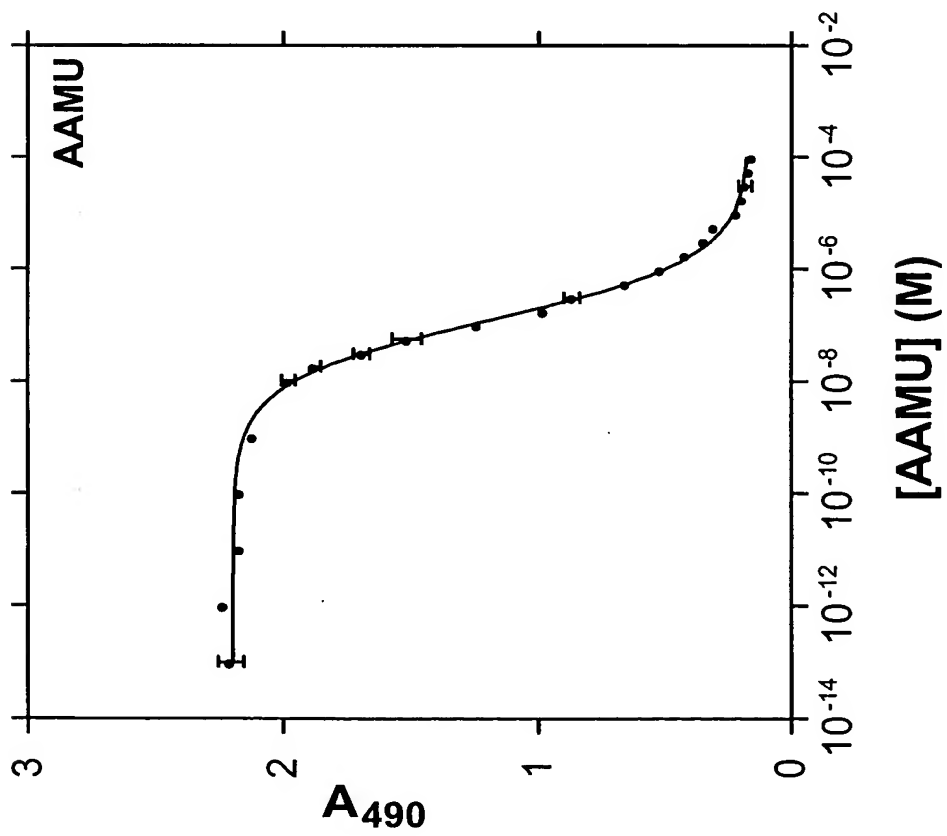
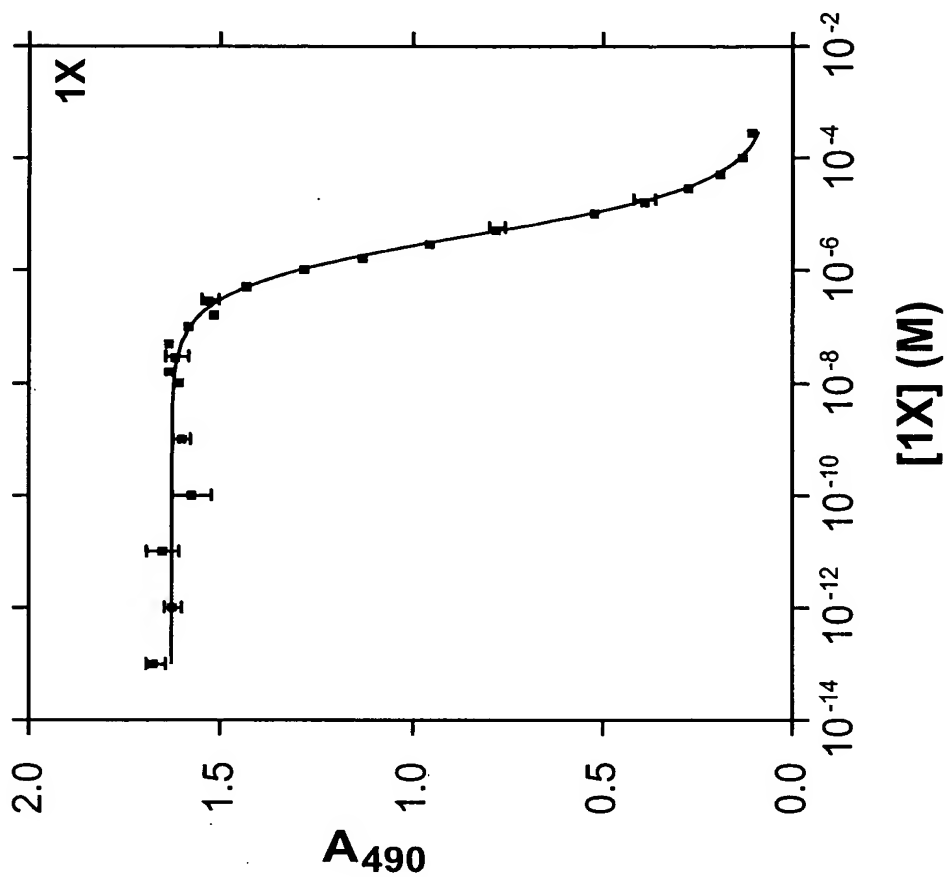


FIG. 18



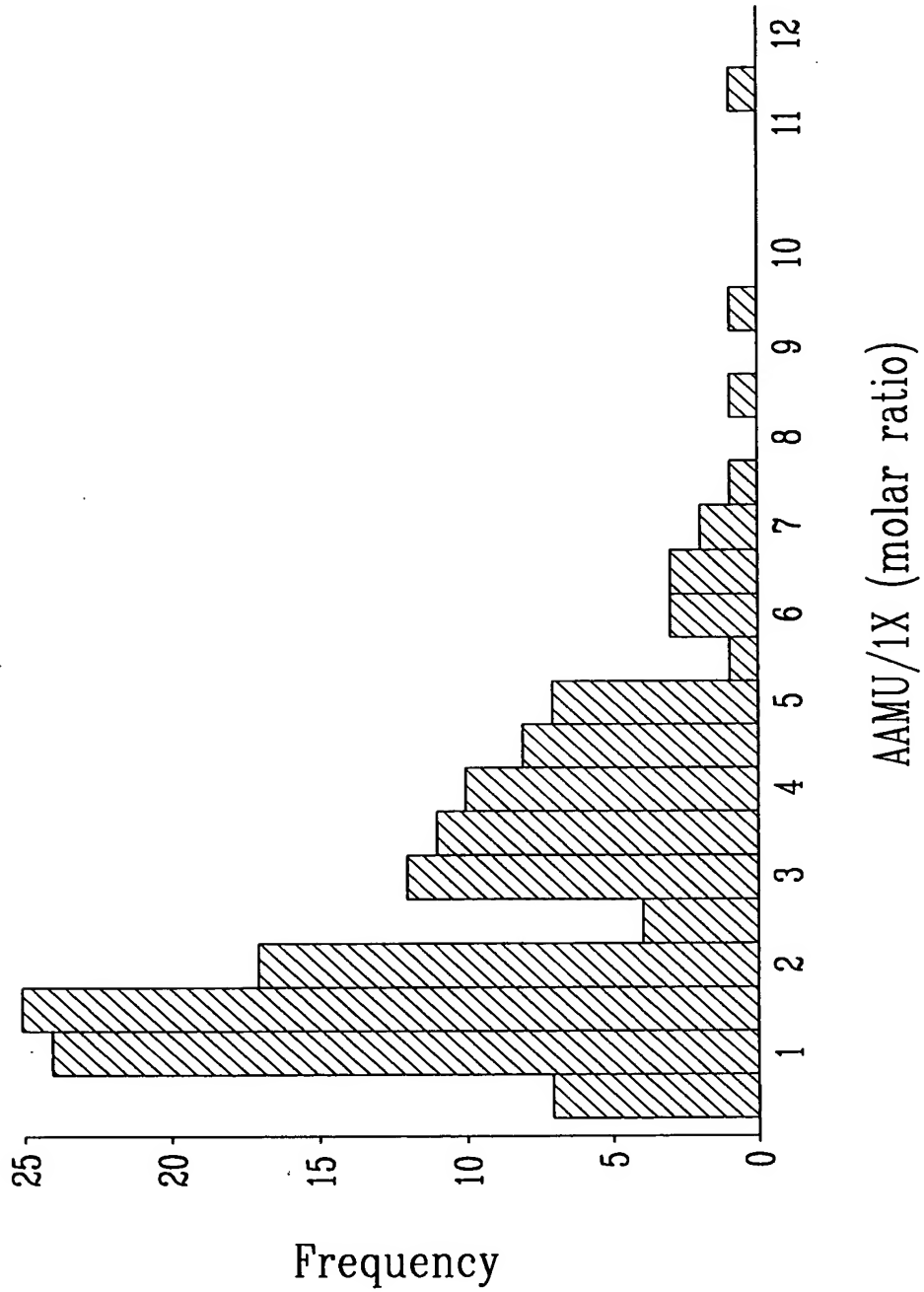
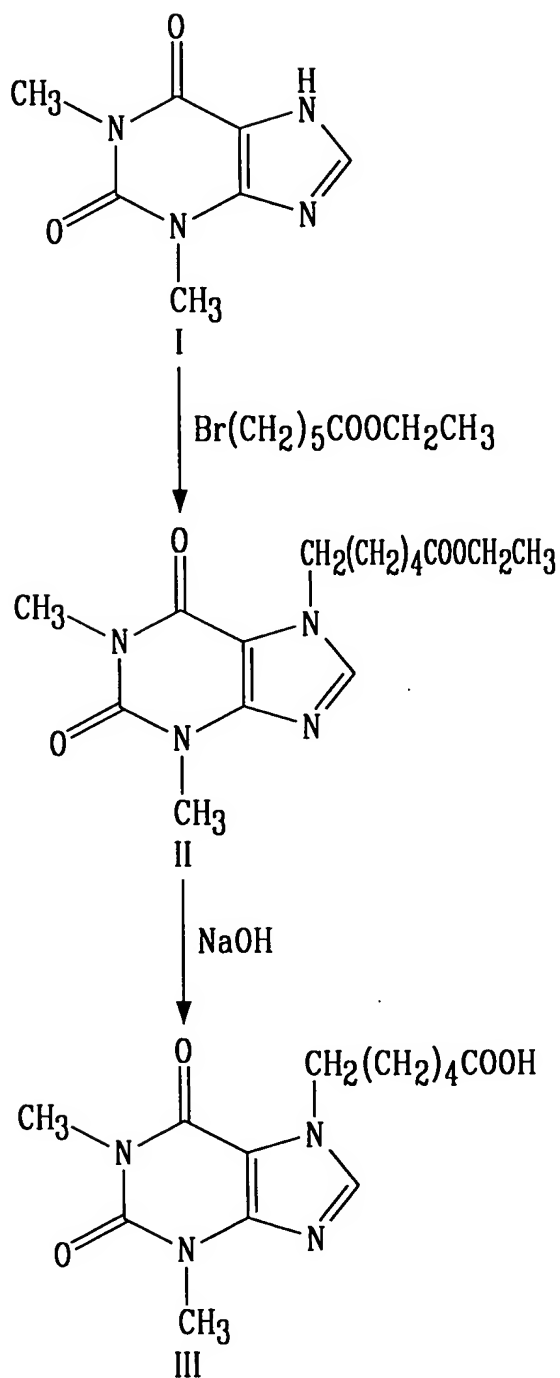
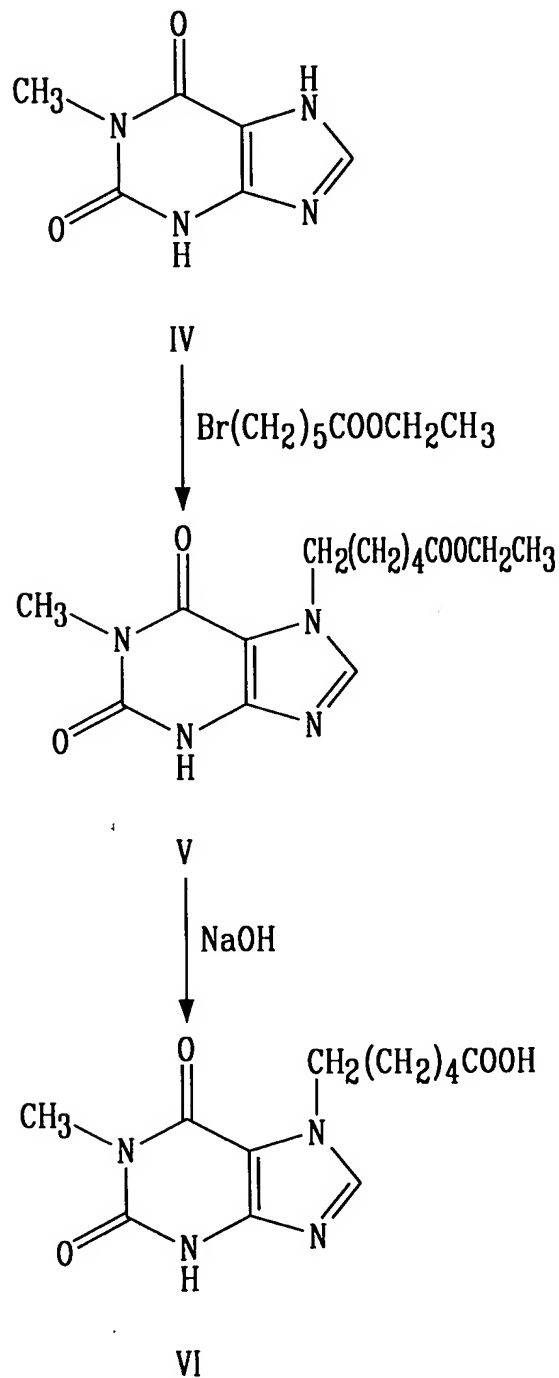


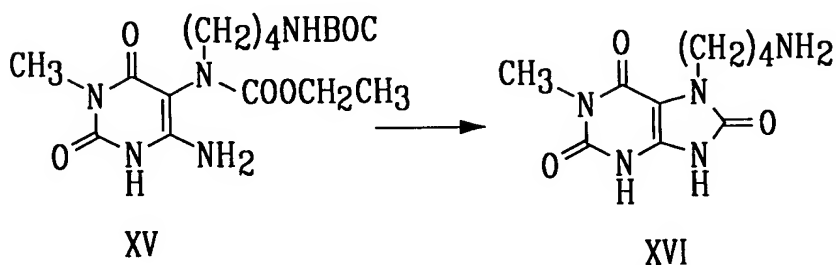
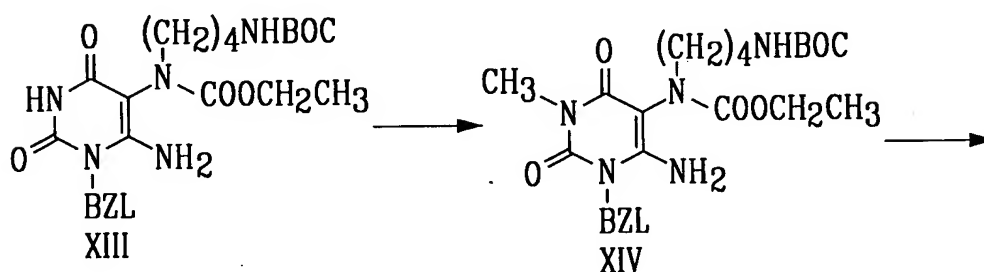
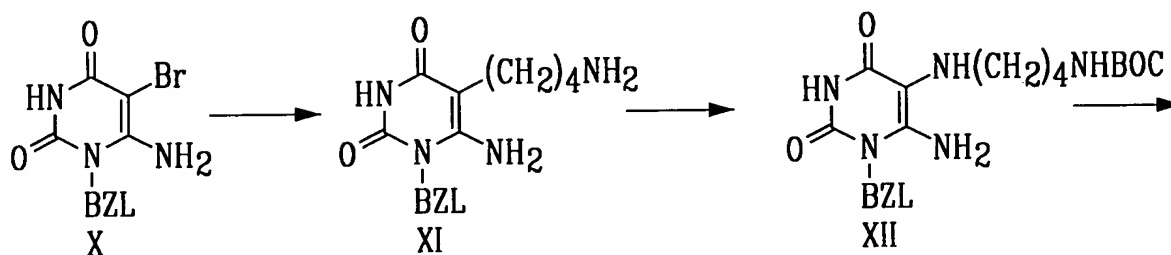
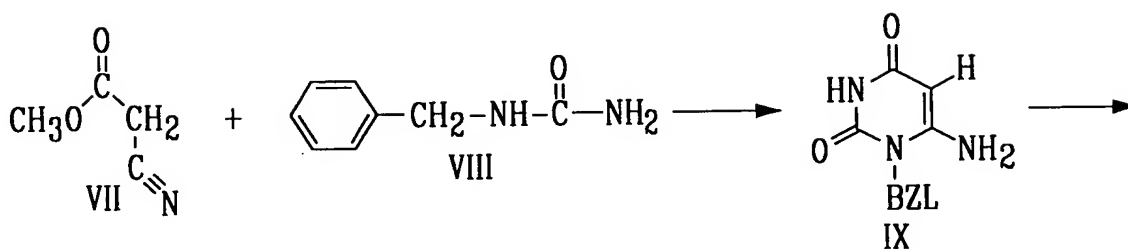
Fig. 20



Caffeine derivative



1,7-dimethylxanthine derivative



1,7-dimethyluric acid derivative



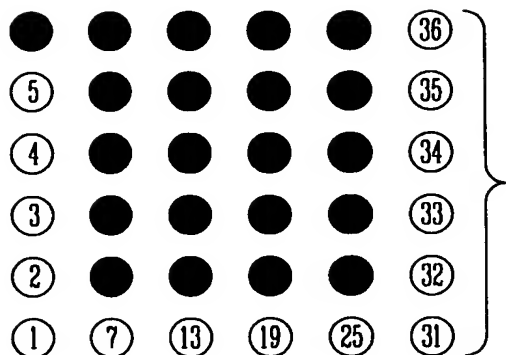
Docket No.: 3298.1003-000  
Title: USE OF METABOLIC PHENOTYPING..  
Inventor: Brian Leyland-Jones

	1	2	3	4	5	6	7	8	9	10	11	12
A	Blk	STD8	STD16	S1	S9	S5	S1	S9	S5	Blk	STD8	STD16
B	STD1	STD9	STD17	S2	S10	S6	S2	S10	S6	STD1	STD9	STD17
C	STD2	STD10	STD18	S3	S11	S7	S3	S11	S7	STD2	STD10	STD18
D	STD3	STD11	STD19	S4	S12	S8	S4	S12	S8	STD3	STD11	STD19
E	STD4	STD12	STD20	S5	S1	S9	S5	S1	S9	STD4	STD12	STD20
F	STD5	STD13	STD21	S6	S2	S10	S6	S2	S10	STD5	STD13	STD21
G	STD6	STD14	STD22	S7	S3	S11	S7	S3	S11	STD6	STD14	STD22
H	STD7	STD15	STD23	S8	S4	S12	S8	S4	S12	STD7	STD15	STD23

FIG. 23



6X6 ARRAY



ARRAY LAYOUT:

ALIGNMENT MARKERS- ○

BUFFER BLANKS- ○

ANTIGENS- ●

# ANTIGEN KEY:

1. BIOTINYLATED BSA MARKER
- 2-6. BUFFER BLANKS
7. NAT2: AAMU
8. BIOTINYLATED BSA MARKER
9. NAT2: 1X
10. NAT1: pASA
11. NAT1: ACETYL-pASA
12. CYP1A2: CAFFEINE
13. BIOTINYLATED BSA MARKER
14. CYP1A2: 1,7-DMX
15. CYP1A2: 1,7-DMU
16. CYP2A6: COMARIN
17. CYP2A6: 7-HYDROXYCOUMARIN
18. CYP2C19: R- (-) -MEPHENYTOIN
19. BIOTINYLATED BSA MARKER
20. CYP2C19: S- (+) -MEPHENYTOIN
21. CYP2C9: DICLOFENAC
22. CYP2C9: 4-HYDROXYDICLOFENAC
23. CYP2D6: DEXTROMETHORPHAN
24. CYP2D6: DEXTROPHAN
25. BIOTINYLATED BSA MARKER
26. CYP2E1: CHLORZOXAZONE
27. CYP2E1: 6-HYDROXYCHLORZOXAZONE
28. CYP3A4: MIDAZOLAM
29. CYP3A4: 1-HYDROXYMIDAZOLAM
30. BUFFER BLANK
- 31-36. BIOTINYLATED BSA MARKER



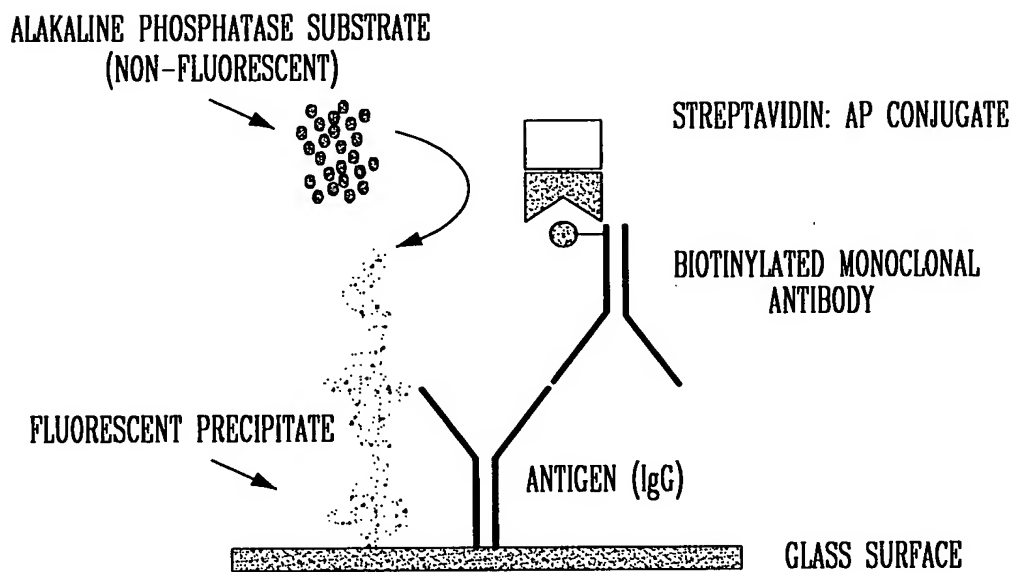


FIG. 26

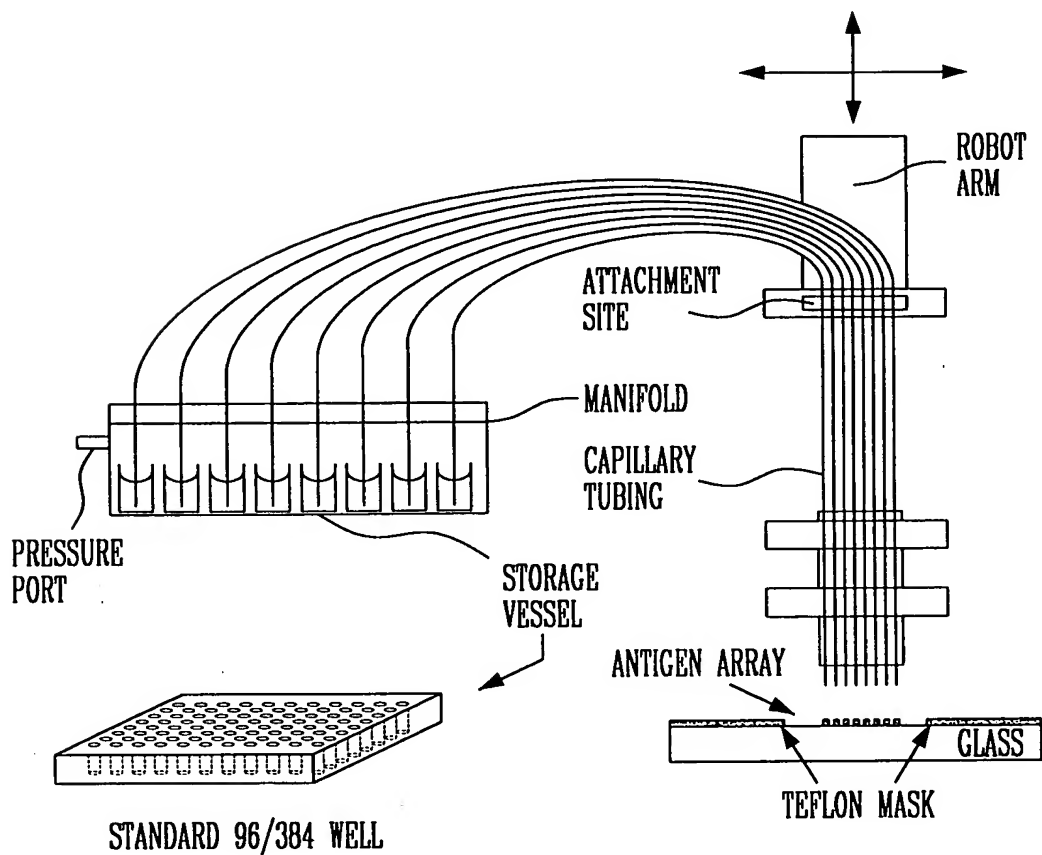
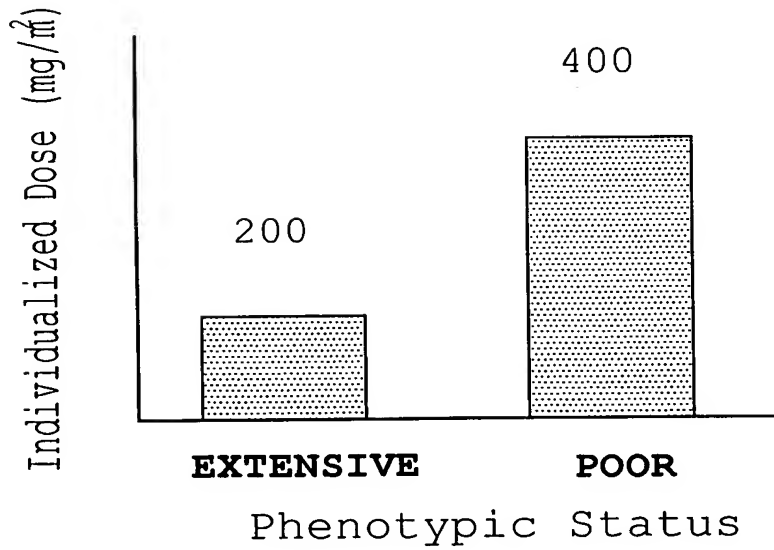
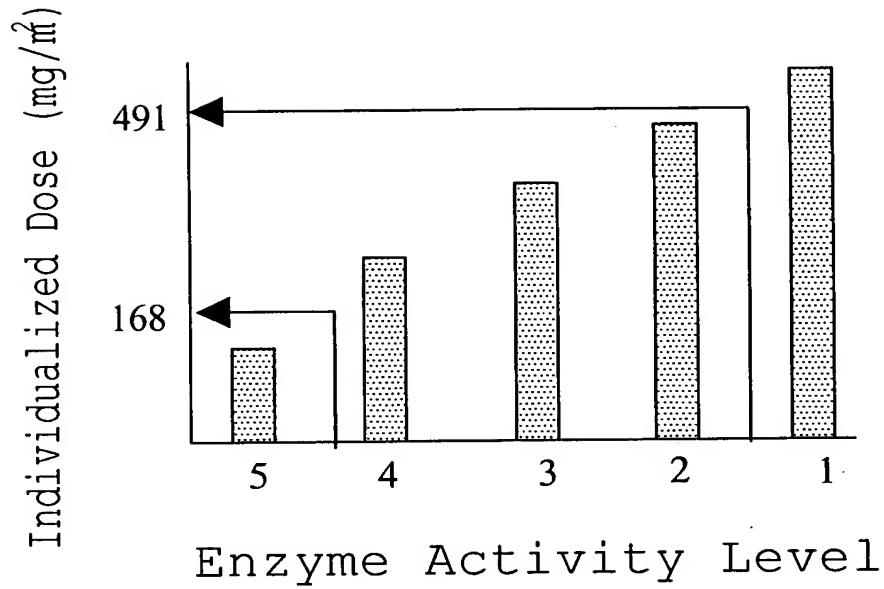
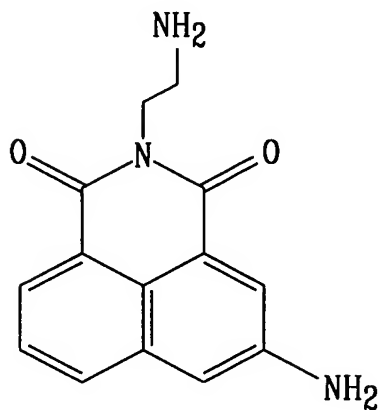
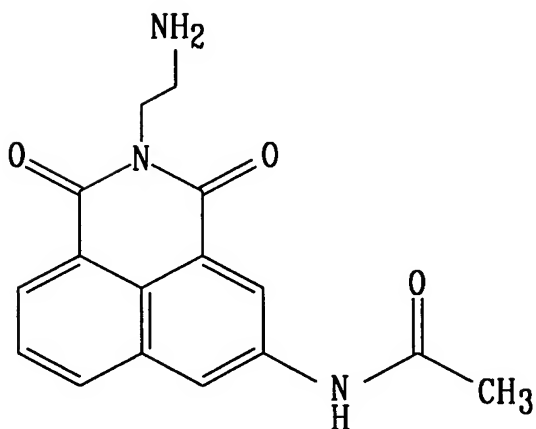


FIG. 27





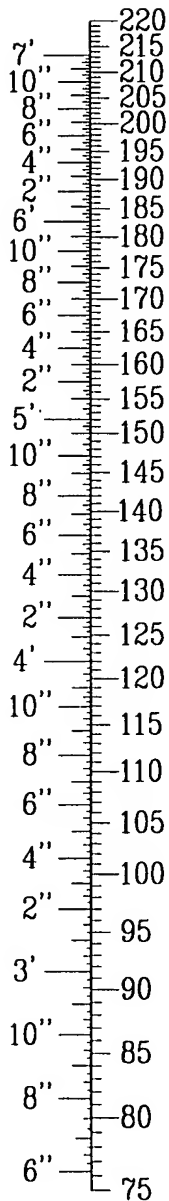
Amonafide



N-Acetyl-Amonafide

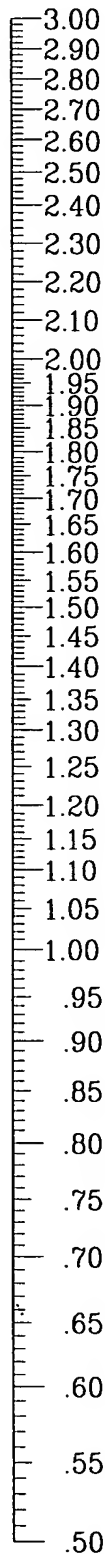


HEIGHT IN FEET

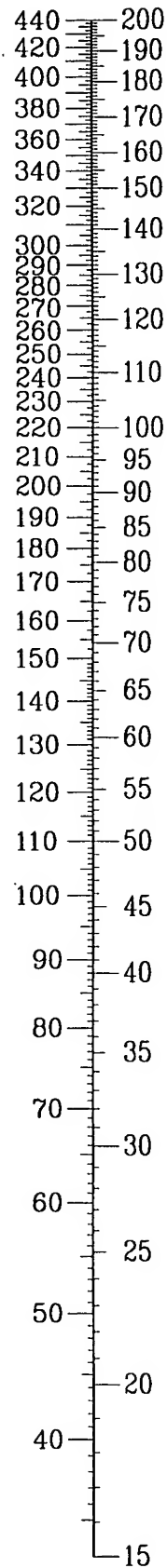


HEIGHT IN CENTIMETERS

SURFACE AREA IN SQUARE METERS



WEIGHT IN POUNDS



HEIGHT IN KILOGRAMS